Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently Amended) A method of scheduling operations for logical volumes in a data storage system comprising:

    determining, for a plurality of priority classes, which operations associated with each of the priority classes in the plurality of priority classes have been requested for a logical volume; ~~and~~

    selecting one of the operations by performing a probability-based operations lookup based on the determination; and

    wherein the probability-based operations lookup comprises using at least one table configured according to predetermined probability settings.

2. (Currently Amended) The method of claim 1, wherein ~~the probability-based operations lookup~~ the at least one table comprises ~~using~~ a table of entries corresponding to different operations, further comprising:

    forming a plurality of first selection values, one corresponding to each of the priority classes in the plurality of priority classes, based on the determination;

    selecting one of the priority classes in the plurality of priority classes based on the determination; and

    selecting a corresponding one of the plurality of first selection values corresponding to the selected one of the plurality of priority classes as a lookup index pointing to one of the entries.

3. (Currently Amended) ~~The method of claim 2,~~ A method of scheduling operations for logical volumes in a data storage system comprising:

3   determining, for a plurality of priority classes, which operations associated
4   with each of the priority classes in the plurality of priority classes have been requested for
5   a logical volume;
6   selecting one of the operations by performing a probability-based operations
7   lookup based on the determination;
8   wherein the probability-based operations lookup comprises using a table of
9   entries corresponding to different operations, further comprising:
10   forming a plurality of first selection values, one corresponding to each of the
11   priority classes in the plurality of priority classes, based on the determination;
12   selecting one of the priority classes in the plurality of priority classes based on
13   the determination; and
14   selecting a corresponding one of the plurality of first selection values
15   corresponding to the selected one of the plurality of priority classes as a lookup index
16   pointing to one of the entries; and
17   wherein the probability-based operations lookup comprises a first lookup level
18   corresponding to a probability-based priority class lookup and a second lookup level
19   corresponding to the probability-based operations lookup, and wherein selecting one of
20   the priority classes in the plurality of priority classes comprises:
21   deriving a second selection value from the first selection values; and
22   using the second selection value as a first lookup index at the first lookup
23   level and using the selected one of the first selection values as a second lookup index at
24   the second lookup level.

1   4. (Cancelled)
1   5. (Cancelled)
1   6. (Cancelled)

1   7. (Cancelled)

1   8. (Cancelled)

1   9. (Cancelled)

1   10. (Cancelled)

1   11. (Cancelled)

1   12. (Currently Amended) An apparatus for scheduling operations for logical volumes in

2   a data storage system, comprising:

3   a stored computer program in memory instituting the steps of

4   determining, for a plurality of priority classes, which operations associated

5   with each of the priority classes in the plurality of priority classes have been requested for

6   a logical volume; and

7   selecting one of the operations by performing a probability-based operations

8   lookup based on the determination; and

9   _____ wherein the probability-based operations lookup comprises using at least one

10   table configured according to predetermined probability settings.

1   13. (Cancelled)

1   14. (Cancelled)

1   15. (Cancelled)

1   16. (Cancelled)

1   17. (Cancelled)

1   18. (Cancelled)

1   19. (Cancelled)

1   20. (Cancelled)

1   21. (Currently Amended) A data storage system comprising:

2   one or more storage devices;

3   a controller to control scheduling of operations for a logical volume residing

4   on at least one of the one or more storage devices; ~~and~~

5   _____wherein the controller is operable to determine, for a plurality of priority

6   classes, which operations associated with each of the priority classes in the plurality of

7   priority classes are pending and select one of the operations by performing a probability-

8   based operations lookup based on the determination; and

9   _____ wherein the probability-based operations lookup comprises using at least one

10   table configured according to predetermined probability settings.

1   22. (Currently Amended) A method of scheduling requested operations for a logical volume

2   in a data storage system comprising:

3   determining which requested operations are associated with each of a plurality of

4   priority classes;

5   selecting one of the plurality of priority classes by performing a first probability-

6   based lookup; ~~and~~

7   selecting one of the requested operations for scheduling by performing a second

8   probability-based lookup, wherein the selected operation is associated with the selected

9   priority class; and

10   _____ wherein each of the first probability-based lookup and the second probability-based

11   lookup comprises using a table configured according to predetermined probability settings.